

# THE YOUNG HOMEMAKER Guide To Nutrition

ANGELA CREESE

Metric Units





MAGHERAFELT  
TECHNICAL COLLEGE







## THE YOUNG HOMEMAKER GUIDE TO NUTRITION

As well as providing a basic course in nutrition, written with the minimum of technical language, this book is intended to teach girls how to choose the right foods for themselves and their families later on.

The emphasis is on using knowledge in everyday life, and it is important that the theory in the book should be turned into practical work as often as possible. It is very desirable that the girls should be enabled to *see* which foods will do them good, and what specific amounts look like.



By the same author:

THE YOUNG HOMEMAKER (First Book)

THE YOUNG HOMEMAKER (Second Book)

For details of other books in this "sectionalised" series, please see p. 87.

SAFETY FOR YOUR FAMILY

YOUNG HOMEMAKER'S BOOK OF SWEET AND  
FANCY COOKERY

YOUNG HOMEMAKER'S BOOK OF PARENTCRAFT

REVISION NOTES FOR 'O' LEVEL AND CSE COOKERY

1050 QUESTIONS AND ANSWERS IN DOMESTIC  
SCIENCE

550 QUESTIONS AND ANSWERS IN PARENTCRAFT

More information on p. 89.



# THE YOUNG-HOMEMAKER GUIDE TO NUTRITION

by  
ANGELA CREESE

Illustrations by David Hunter



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# FOOD

## Why Do We Eat?

Most children would answer this question by saying: "We eat because we like eating." **True.**

A starving person would say: "I want to eat because I am hungry." **True.**

## What Would Happen If We Did Not Eat?

We would die. Which means of course that we eat **to live.**  
Let us ask another question.

## What Do We Eat?

That is easy. We eat **food.** Does drinking count? Very often it does.

## Food May Be Liquid or Solid

Here is a list of some liquid and solid foods. Can you add more?

LIQUID	SOLID
Milk	Meat
Soup	Cheese
Gravy	Fish
Fruit juices	Eggs
	Bread
	Fruit
	Vegetables

Babies start with liquid food—**milk.**

Invalids often only have liquid foods: milk, beef-tea, soup, etc.

Other people have liquid and solid foods.

## What Does Food Do For Us?

1. Food gives us **energy** to work and keep **warm.**
2. Food gives material for **growth and repair.**
3. Food gives substances which **control the workings** of the body.

E.g. Helping the glands to do their jobs.

Helping the body to use food for energy, growth and repair.

## **Food Contains NUTRIENTS**

Each **nutrient** has its own special job to do to help the body stay **alive and healthy**.

**The Names of the Nutrients are:**

**Carbohydrates**

**Proteins**

**Fats**

**Minerals**

**Vitamins**

## **THESE ARE THE NUTRIENTS' SPECIAL JOBS**

Carbohydrates } 1. Give **ENERGY** for "WORK and WARMTH".

Fats } 2. May make **BODY FAT**.

Proteins 1. For **GROWTH** and **REPAIR**.  
2. For **ENERGY**.

Minerals 1. For **GROWTH** and **REPAIR**.  
2. **CONTROL** the "WORKINGS" of the body.

Vitamins 1. **PROTECT THE BODY** from **DISEASE**.  
2. Help the body use food for **energy, growth and repair**.

Is there a food which will give us **all** these nutrients? No, there is not. Some foods will give us only **one** nutrient. Some foods will give **us** several nutrients.

In order to have **all** the nutrients we must eat  
**a mixed diet.**



**But** our bodies need a certain amount of each nutrient regularly. So not only do our bodies need a **mixed diet** but a diet which contains the **right amount** of all the nutrients.

This is called a **balanced diet**.



**What happens if we have too much of a nutrient?**

1. In **food**: within limits, the body would use or get rid of the extra.
2. In **medicines**: it could be dangerous.
  - (a) The correct dose only should be taken.
  - (b) All Vitamin tablets, iron tablets, etc., should be kept out of the way of small children.

**What happens if we have too little of a nutrient?**

1. The body would manage for a time.
2. After a time the body would become ill or even die.

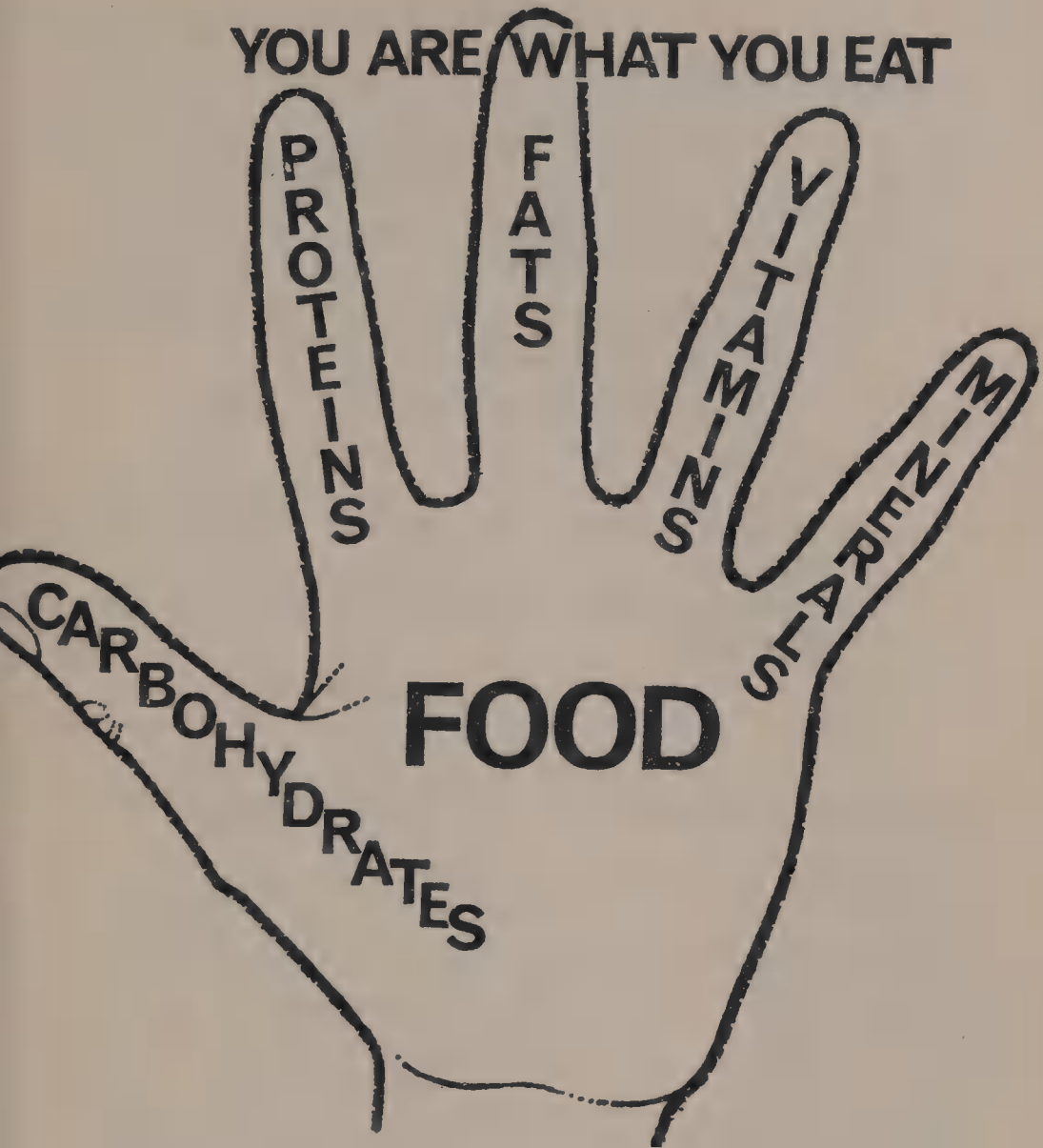
## SUMMARY

1. **To live we must have food.**
2. **Food may be liquid or solid.**
3. **Food is anything we eat or drink which will do any of the following things for us:**
  - (a) **Give energy for “work and warmth”.**
  - (b) **Build and repair the BODY.**
  - (c) **Control the “workings” of the body and keep it healthy.**
4. **Food contains nutrients.**
5. **A balanced diet is a diet which contains enough of all the nutrients.**

**Learn this Jingle to help you remember the names of the nutrients:**

Carbohydrates  
Proteins  
Fats  
Vitamins A, B, C.  
Minerals; calcium, iron and salt  
and don't forget Vitamin D!

**YOU ARE WHAT YOU EAT**



# ENERGY

## How do we get Energy?

1. All energy comes from the sun.
2. The plants store this energy in their seeds, stems, roots and tubers.
3. For food, we eat the plants, or the animals that have eaten the plants.
4. Digested food is burnt up in the cells of our bodies by the oxygen we breathe and **energy** is released.

The body uses this energy for **work** and **warmth**.

## Work means:

1. Movements “outside” the body, e.g. walking, running, doing jobs, etc.
2. Movements “inside” the body, e.g. heart beating, lungs breathing, etc.

## GETTING ENERGY



## USING ENERGY



**Warmth means:**

Keeping the body at its normal temperature of 98.4° F. (36.7° C.).

### **How Can We Measure the Energy in Food?**

We have used a unit called a Calorie (also kilocalorie or kcal). After “going metric” we may use the megajoule (MJ). For now, we will go on talking about kcals. Whatever name you use, the **proportion** is the important thing.

100g of **Carbohydrate** gives 413 kcals

100g of **Protein** gives 413 kcals

100g of **Fat** gives 936 kcals

You can see that 100g of fat gives more than twice the number of kcals that 100g of protein or carbohydrate gives.

This means that fat gives more than twice as much **energy** as carbohydrate or protein give!

The energy value of the food we eat can be measured in kcals.

The energy we use for “Work and warmth” can be measured in kcals too.

E.g. 25g of carbohydrate gives 103 kcals.

To walk slowly for 1 hour we need 115 kcals.

### **Do we need energy when we are asleep or when we are lying down awake?**

Yes we do. We need it so that our hearts can keep beating and our lungs can keep moving as we breathe, etc.

### **We need energy for just living**

The **amount** of energy we need for “Just living” has a special name. It is called our **Basal Metabolism**.

It has been worked out that:

**Men** need 70 kcals an hour for “Just living”.

**Women** need 60 kcals an hour for “Just living”.

When we are up and about we may stand up, sit down, walk about or eat our food. For these movements we need more energy than we use for lying still. These movements are called “everyday activities”.

## **We need energy for everyday activities**

Here are some examples:

Sitting	15 kcals an hour
Standing	20 kcals an hour
Dressing and undressing	33 kcals an hour
Walking slowly	115 kcals an hour

But people usually do more energetic things than these. They might do housework or play games or go to work. To do these things the muscles are used more than they are used in going for a slow walk for instance.

For such muscular activity more energy is needed!

## **We need energy for muscular activity**

For instance:

Running	500 kcals an hour
Sewing	40 kcals an hour
Peeling potatoes	40 kcals an hour
Coal mining	320 kcals an hour
Typing	30 kcals an hour
Writing	20 kcals an hour

## **Does everybody need the same amount of energy?**

No. The amount of energy people need depends on:

1. The size of the body. People with large bodies need more energy for "Just living" than smaller people, e.g. men, being usually bigger than women, need more energy.
2. The work they do. A miner needs more energy than a typist.
3. Age. Growing boys and girls sometimes need as much or more than their parents.

These are some examples to show how people's need for energy may differ.



Here are some figures to give you an idea of how many kcals people may need each day. Because no two people are exactly alike they may be quite healthy and work just as well on more or less kcals than these figures suggest.

<b>Man</b>	Fairly active	3000 kcals
<b>Woman</b>	Fairly active	2200 kcals
<b>Girl</b>	12-18 yrs	2300 kcals
<b>Boy</b>	12-15 yrs	2800 kcals
	16-18 yrs	3000 kcals

### SUMMARY

1. All energy comes from the sun.
2. Plants store this energy in their seeds, stems, roots and tubers.
3. For food we eat the plants, or animals that have eaten plants.
4. Digested food is burnt in the cells of our bodies by oxygen we breathe, and energy is released.
5. The energy value of food can be measured in Calories (Kilo-calories or kcals).
6. The amount of energy we use for work and warmth can be measured in kcals.
7. We need energy for:
  - “Just living” (basal metabolism)
  - everyday activity
  - muscular activity.
8. The amount of energy people need depends on:
  - size
  - work they do
  - age
  - sex.

# FOOD FOR ENERGY

## CARBOHYDRATES

Carbohydrates, proteins and fats can all give us energy, but protein is needed especially for growth and repair. Therefore it is better to use carbohydrates and fats for energy and leave the protein for growth and repair.

Carbohydrates are our main source of energy.

There are three kinds of carbohydrates useful to the body:

Sugars

Starch

Cellulose

### Sugar

When we think of sugar we usually think of the sugar in the sugar basin and the sugar used in cooking, but there are other kinds of sugar. Sometimes we read that a product contains "Glucose" or "Lactose". So we will make a list of important sugars.

1. Grape sugar (Glucose)—A simple sugar.

Found in:

Ripe fruits, especially grapes

Honey

Plant juices.

2. Fruit sugar (Fructose)—A simple sugar.

Found in:

Ripe fruits

Honey

Plant juices.

3. Cane sugar (Sucrose)—A double sugar.

Found in:

Sugar cane

Sugar beet

Ripe fruits

Dried fruits

Carrots

etc.

4. Malt sugar (Maltose)—A double sugar.

Found in:

Malt

Malt products.

5. Milk sugar (Lactose)—A double sugar.

Found in:

All milks.

### **Starch**

Starch is made of **many units** of grape sugar. It is stored by plants in their seeds, stems, roots and tubers.

Found in:

Cereals

Pulses

Potatoes.

**Cellulose**, e.g. the skin and stringy parts of vegetables and fruits.

Is not really useful as food because the body cannot digest it, but it is useful as roughage.

Found in:

Fruits

Vegetables

Cereals

Nuts.

## FOODS RICH IN CARBOHYDRATES

It is important to remember that a food rich in carbohydrate is not usually ALL carbohydrate. There is nearly always some other nutrient present, e.g. bread is rich in carbohydrate but it also has some protein. But sugar IS all carbohydrate.

Here is a list of foods rich in carbohydrate. They are divided into sugar and starch foods.

<b>Sugar</b>	<b>Starch</b>
Sugars	Flour
Honey	Bread
Jam	Cereals
Syrup	Potatoes
Dried fruit	Pulses
Beetroot	
Ripe bananas	

Anything made with a lot of these foods will be rich in carbohydrates of course, e.g. Cakes, Bread pudding, Sweets, etc.

### What happens to carbohydrates when we eat them?

The body can use **simple** sugars as they are.

The **double** sugars and **starch** must be broken down into simple sugars before the body can use them.

This is done in the

Mouth

Stomach

Small intestine

### IN THE MOUTH

Cooked starch is mixed with **saliva** and begins to break down.

### IN THE STOMACH

Cooked starch may go on being broken down.

### IN THE SMALL INTESTINE

Cooked starch and **double** sugars are broken down into **simple** sugars.

When all the carbohydrate is in the form of simple sugars they pass through the walls of the small intestine and into the blood stream.

This is called **Absorption**.

What happens then ?

1. The blood carries them to the liver where they may be stored (as **Glycogen**).
2. The Glycogen is turned back into **GLUCOSE** when the body needs energy.
3. The Glucose is burnt in the body cells by the oxygen we breathe and energy is released.
4. If more carbohydrate is eaten than the body needs for energy then it will be stored as **FAT**.

What happens when carbohydrates ~~are~~ heated?

### **Sugar**

#### **Dry heat**

The sugar turns into Barley sugar and then into Caramel. Caramel is brown and is useful for flavouring in cooking.

#### **Heat + water**

The sugar melts and forms a syrup. When the water evaporates barley sugar and then caramel is formed.

#### **Heat + water + acid, e.g. when fruit is stewed or jam is made.**

The sugar is turned (**inverted**) into glucose and fructose. In other words the sugar is partly digested for us.

### **Starch**

#### **Dry heat**

The starch becomes fawn and then brown as when toast is made.

The starch turns into **DEXTRIN** which is easier to digest than starch.

#### **Heat + water**

The starch grains swell and burst.

The starch dissolves in the water and forms a thick paste. Now the starch can be digested by the body.

## **Cellulose**

The cellulose in vegetables, fruits and cereals is softened by cooking. The body can then use them, not as food but as roughage.

## **SUMMARY OF CARBOHYDRATES**

### **Kinds**

Sugar  
Starch  
Cellulose

### **Found in**

Sugar	Flour
Honey	Bread
Jam	Cereals
Syrup	Potatoes
Dried fruit	Pulses
Beetroot	etc.
Ripe bananas	

### **Digestibility**

1. Starch must be cooked.
2. Sugar and cooked starch well digested by most people.

### **Good for**

Energy for “work and warmth”

Body fat

Sugar is good for quick energy, sometimes called a “Muscle food”.

## **SPECIAL NOTE**

Carbohydrates need Vitamin B so that the body can use them completely.

**Foods rich in Carbohydrates—opposite**





BANANAS



POTATOES



## FAT

Fats are used by the body as carbohydrates:

1. For energy—for work and warmth.
2. To form body fat.

Fat is a more concentrated energy food than carbohydrate.

If we had to get all our energy food from carbohydrate our diet would be very bulky.

Fats are especially useful:

1. For people doing heavy work who need plenty of energy food.
2. For children, because they need a lot of energy food but have small stomachs.
3. In winter for extra warmth.

**But** remember that if you eat a great deal of fatty food and then just sit around the fire you will not be using the food for Work or Warmth and it will be turned into fat.

Fats may be:

Liquid	e.g. Olive oil
Soft	e.g. Lard
Hard	e.g. Mutton fat.

Fats of all kinds are made up of

**Glycerine** (sometimes called **glycerol**)

**Fatty Acids**

It is the fatty acids which make fats differ from each other, e.g. whether they are hard or soft.

One fatty acid which you can easily recognise is **butyric acid**. It gives rancid butter that unpleasant smell.

Fats are found in:

**plants**  
**animals**

Plants form fats from carbohydrates

Animals form fats from carbohydrates  
fat in food

Plants store fat in seeds and fruits. Animals store fat in most parts of the body.

### FOODS RICH IN FAT

Butter	Milk
Margarine	Cheese
Dripping	Cream
Lard	Egg yolk
Suet	Fat in meat
Olive oil	Chocolate
Frying fats and oils	Herrings
	Salmon
	Sardines in oil
	Brazil nuts
	Almonds
	Peanuts
	Coconuts

#### What happens to fats when we eat them?

Just as carbohydrates have to be broken down so that the body can use them, so do fats.

Fats must be:

1. Broken up into very fine particles.
2. Made to dissolve in water.
3. Broken down into simple parts.

This is done in the small intestine.

1. The fat is broken up into fine particles by **bile**.
2. Fat is broken up into Glycerine and Fatty Acids.

The fat is now able to pass through the walls of the small intestine (**absorbed**).

What happens then?

1. Some of the fat is stored.
2. Some is used for energy.

**Why does the body store fat ?**

1. To protect important organs of the body, e.g. the kidneys. (Ask the butcher to show you some kidneys with the fat still round them.)
2. To use for energy when needed.
3. A layer of fat helps the body to keep its heat in. "Nature's Overcoat".

**Fats are slow to digest and this means:**

1. They do not give energy as quickly as carbohydrates.
2. If a meal contains fat you do not feel hungry very quickly afterwards, as you do if the meal contains no fat.

**What happens when fat is heated ?**

1. It melts.
2. Any water in it is given off as steam.
3. If it gets too hot it becomes very indigestible.

## **SUMMARY OF FAT**

### **Kinds**

**Animal fats**

**Vegetable fats**

**They may be:**

**Liquid**

**Soft**

**Hard**

### **Found in**

**Butter**

**Margarine**

**Dripping**

**Lard**

**Olive oil**

**Frying fats and oils**

**Milk**

**Cheese**

**Cream**

**Egg yolk**

**Fat in meat**

**Chocolate**

**Fat fish**

**Brazils**

**Almonds**

**Peanuts**

**Coconuts**

# FOODS RICH IN FAT



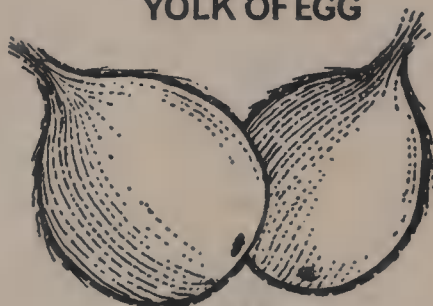
FRIED FISH & CHIPS



HERRINGS



YOLK OF EGG



COCONUTS



DRIPPING  
OUT OF MEAT



FRIED BACON

## **Digestibility**

1. Well digested by most people.
2. Some fats easier to digest than others, e.g. butter is easier to digest than mutton fat. The soft fats are easiest to digest.
3. Enough carbohydrate must be eaten with fat or you will feel sick.

## **Good for**

1. Energy for "Work and Warmth".
2. Preventing hunger too soon after a meal.
3. Forming body fat.

## **Amount Needed**

1. Depends on energy **one** needs.
2. How well **one** digests fat.
3. Time of year.
4. About  $\frac{1}{4}$  of day's kcals should be from fat.

## **SPECIAL NOTE**

**Fat needs Carbohydrate**, so that the body can use the fat completely.



# FOOD FOR BODY BUILDING

## PROTEIN

Protein is the most important body building food. **You** cannot live without it. No plant or animal can live without it.

The body uses Protein for:

Growth

Repair

Any "Left-over" Protein is used for Energy.

It is important to eat carbohydrate foods with protein foods.

If you don't then all the protein will be used for energy instead of body building.

But, you say, people always do. Nobody eats meat or egg all by itself.

But suppose the meal is meat, potatoes, greens, and fruit and custard to follow.

If the person doesn't eat potatoes because they are slimming and they don't eat custard because they don't like it, will they get enough carbohydrate in that meal?

Think of this next time you are tempted to leave or refuse some of your school dinner!

**PROTEINS** can be divided into two classes.

1. Protein from **animal** foods—Called Animal Protein.
2. Protein from **plant** foods—Called Vegetable or Plant Proteins.

All proteins are made up of simpler parts called **Amino Acids**.

There are 22 amino acids that we know about.

Ten of these are **very, very** important for children.

Adults can manage on 8.

Generally animal proteins have all these very important 10 amino acids.

Generally plant proteins have not all these very important 10 amino acids.

When plant proteins are mixed they become very useful, but

everybody needs some animal protein each day. Which foods contain this important nutrient called **protein**?

#### **Animal Proteins**

Meat  
Milk  
Eggs  
Fish  
Cheese

#### **Plant Proteins**

Cereals  
Pulses  
Nuts  
Vegetables (a little)

#### **How much protein do we need each day?**

1. There should be **SOME** animal protein in each meal. This may be milk, meat, fish, egg or cheese.
2. Some of the plant proteins should be added to the meal if only a small amount of meat, etc., can be afforded, e.g. bacon and beans.

#### **Special needs:**

1. Children need extra protein for growing.
2. Expectant and nursing mothers need extra protein to make the baby's body and for milk to feed it.
3. Some invalids need extra protein for repair.

#### **What happens if you have too much protein?**

Generally feel better for it.

#### **What happens if you have too little protein?**

1. Children don't grow properly.
2. Poor health.

#### **What happens to proteins when we eat them?**

Like carbohydrates and fats, proteins must be broken down into a simple form before the body can use them.

1. They are broken up into very small particles—(partly by chewing).
2. They are made soluble, i.e. able to dissolve in water.
3. They are broken down into their amino acids.

These changes take place in the stomach and small intestine.

### **In the Stomach**

Protein begins to be broken down.

### **In the Small Intestine**

Protein completely broken down into amino acids.

When all the protein has been broken down into amino acids they can be used by the body.

1. They pass through the walls of the small intestine into the blood stream.
2. They are carried to the liver.
3. They may be used :
  - (a) for energy if no carbohydrate has been eaten;
  - (b) for growth and repair.

What happens when protein is heated ?

1. It may “set” (**coagulate**) as egg white does.
2. It becomes more digestible.
3. It sometimes shrinks as meat does.

If proteins are over-heated they:

1. Become tough.
2. Become indigestible.
3. May lose some of their food value.

## **SUMMARY OF PROTEINS**

### **Kinds**

Animal proteins.

Vegetable proteins.

### **Found in**

#### **ANIMAL**

Meat

Milk

Eggs

Fish

Cheese

#### **VEGETABLE**

Cereals

Pulses

Nuts

Vegetables (a little)

### **Digestibility**

Well digested by most people if properly cooked.

### **Good for**

1. Growth.
2. Repair.
3. Used for energy if not used for body building.

### **Amount Needed**

1. Some animal protein at each meal.
2. Extra for:
  - Children
  - Expectant and nursing mothers
  - Some invalids

### **SPECIAL NOTE**

Carbohydrate food should be eaten with protein food so that the protein can be used for body building.

## Jingle

### PROTEIN

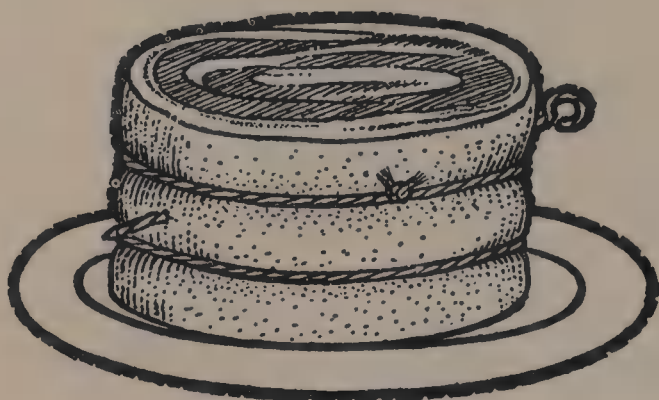
Milk and eggs, meat, fish, cheese,  
There's animal protein  
In all of these.

Lentils, nuts, beans and peas,  
There's vegetable protein  
In all of these.

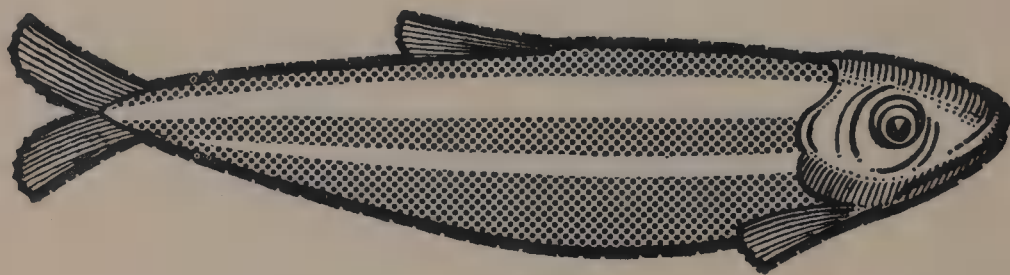
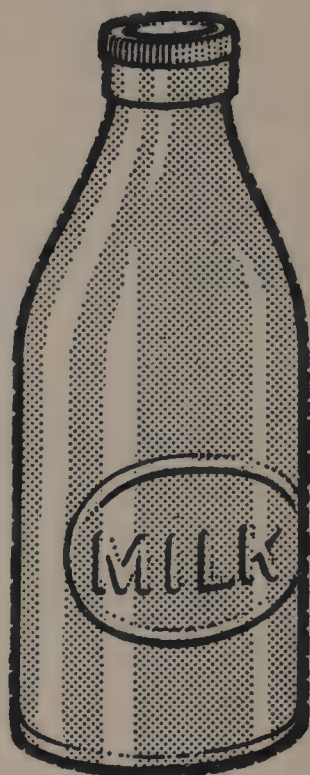
"Animal" is best  
But "vegetable" is good,  
For they all join together  
To make good food.

They're good for growing  
And repairing too;  
Eat them all up  
And they'll soon become YOU!

## FOODS RICH IN ANIMAL PROTEIN



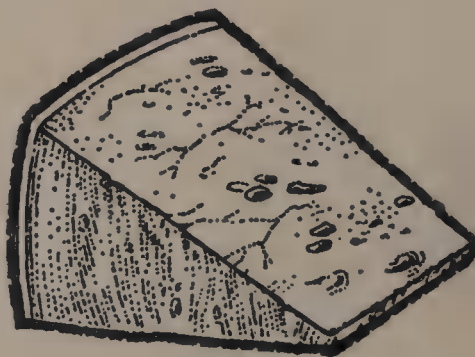
MEAT



FISH



EGGS



CHEESE



# SOME FOODS FOR VEGETABLE PROTEIN

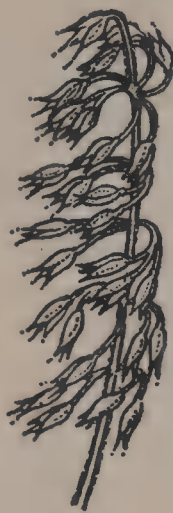
## CEREALS



WHEAT



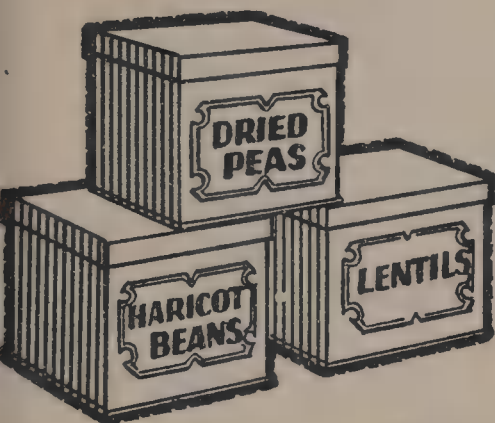
BARLEY



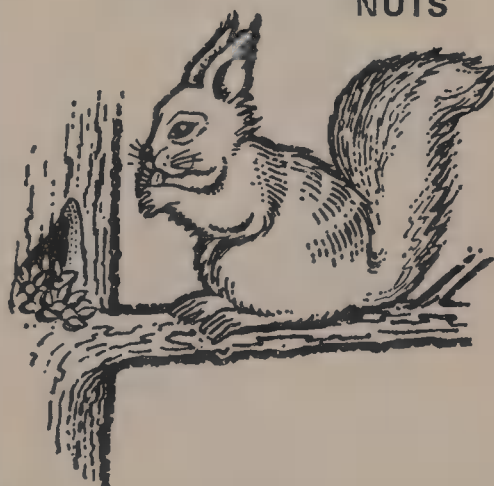
OATS



## PULSES



## NUTS



## VEGETABLES



CABBAGE



SPROUTS



POTATOES



## MINERAL ELEMENTS

There ~~are~~ many mineral elements which are needed by the body. In a well-balanced diet they will all be present.

The ones we will study are:

**Calcium**  
**Iron**

**Iodine**  
**Sodium**

### Calcium

#### Used for

1. Making strong bones and teeth.
2. Helps blood to clot and so stop bleeding.
3. Keeps the muscles in good working order.

#### Found in

##### RICH SOURCE

Milk  
Cheeses

##### SOME

Bread (some added to flour)  
Sardines } some in bones!  
Salmon }  
Water cress  
Cabbage  
Hard water!

#### Amount Needed

Everybody needs some.

#### Special needs:

1. Children for strong bones and teeth.
2. Expectant and nursing mothers (for mother and baby's bones and teeth. Milk provides it for baby).
3. Elderly people.

#### Too Little?

1. Children don't grow properly.
2. Children get rickets and poor teeth.
3. Adults' bones may become brittle, teeth poor
4. Blood won't clot properly.

## **Iron**

### **Used for**

Making the red colouring in the blood. The long name for this “red colouring” is **Haemoglobin**. It carries oxygen to the cells of the body so that food can be burnt there.

### **Found in**

Liver	Bread (added to flour)
Kidney	Dried fruit
Meat	Black treacle
Corned beef	Chocolate
Eggs	Green vegetables

The body cannot use all the iron it gets in food, e.g. spinach is very rich in iron but the body cannot use it.

### **Amount Needed**

Everybody needs some.

Special needs:

1. Girls and women when they are losing blood in monthly periods.
2. New babies are born with enough iron to last them a few months, after this they need iron in food, e.g. egg yolk.
3. Expectant and nursing mothers.

### **Too Little?**

1. Get tired easily or even faint.
2. Too little iron is one cause of anaemia.

## **Iodine**

### **Used for**

Helping the thyroid gland to work properly.

This gland is in the neck and controls:

1. Physical growth.
2. Mental growth.

### **Found In**

Herrings	Water cress
Cod	Water
Salmon	Salt which has iodine added ("Iodised")

### **Amount Needed**

A very small amount, but very important.

Special needs:

1. Teenage boys and girls.
2. Expectant mothers.
3. People living in parts of the country where there is too little iodine in the soil and water.

### **Too Little?**

1. The thyroid gland cannot work properly and becomes enlarged.
2. Mental and physical growth is checked in children.

## **Sodium**

### **Used for**

All body fluids.

### **Found In**

Salt  
Bacon  
Cheese  
Kippers  
Bread  
etc.

### **Amount Needed**

A little every day.

Special needs:

1. A little more by everybody in hot weather.
2. People working in hot places.
3. After a lot of physical exercise in the heat.

## **Too Little?**

1. Cramp
2. Headaches
3. Tiredness
4. Sickness.

## **WATER**

We cannot live for more than a few days without water.  
About  $\frac{2}{3}$  of our bodies are made of water.  
Even bones contain water!

### **We use Water**

1. For making all parts of the body.
2. For digesting, absorbing and using food.
3. For removing waste from the body.

### **We get Water**

1. By drinking it.
2. From food, solid as well as liquid.
3. When food is burnt in the body water is formed.

### **We lose Water**

1. In urine and faeces.
2. When we breathe out.
3. In perspiration.

### **Amount Needed**

About 1 litre a day for drinking.  
It is usually good to drink more than this.

# VITAMINS

We have learnt how our bodies need and use Proteins, Carbohydrates, Fats and Mineral elements.

Now we will think about the **Vitamins**.

Although they are present in such small amounts in food and we need only a very little of each vitamin we cannot live without even one of them!

**They are very important**

They even have several long names each, but luckily they have letter names too and we will use these whenever possible.

The letter names of the Vitamins are A, B, C, D, E, K. We need only study Vitamins A, B, C, D, here.

**Food** is our main source of Vitamins. It is not easy to get the right amount of all the vitamins we need, because

1. Different foods often contain different vitamins.
2. Sometimes the amount of a vitamin in a food is very small.

Each vitamin has a special job to do in the body and we must have some of each to keep well.

**What do Vitamins do?**

1. They help the body to use food for energy, growth and repair.
2. Protect the body from illness.

## VITAMIN A

**Good for**

1. Growth of children.
2. Bones and teeth.
3. Healthy sight.
4. Healthy skin.
5. Keeping the linings of the bronchial tubes, stomach, etc., moist.

**Found in**

1. As Vitamin A itself—in fatty parts of food.
2. As **Carotene** which the body changes into Vitamin A. The body can only use about  $\frac{1}{3}$  of Carotene in food.

## **AS VITAMIN A**

Halibut liver oil  
Cod liver oil  
Liver  
Kidney  
Egg yolk  
Butter  
Margarine (added to)  
Cheese  
Milk

## **AS CAROTENE**

Carrots  
Spinach  
Water cress  
Tomatoes  
Dried apricots

### **Amount Needed**

1. Everybody needs a regular supply.
2. We can store Vitamin A in the liver, so that if we have too much one day we can use it on a day when we have too little.

### **Special needs:**

1. Children.
2. Expectant and nursing mothers.
3. People who do not digest fat very well may not get enough Vitamin A and should take Halibut or Cod liver oil capsules.

### **Too Little?**

1. Eyes cannot see as well as they should in dim light. May become "Night blind" or even completely blind.
2. Eyes, throat, etc., become dry and may become infected.
3. Skin becomes rough and sore.
4. Bones and teeth do not form properly.

### **Effect of Heat**

Not affected by ordinary cooking.

### **In Water**

Will not dissolve in water.

Will dissolve in fat—called "fat soluble".

## VITAMIN B

When we talk of “Vitamin B” we are really talking about the Vitamins B. This is because Vitamin B is a group of vitamins which do similar things for the body.

Sometimes all the Vitamin B group are found in one food but not often.

Usually we have to get some from one food and some from another food.

We will study 3 vitamins of the Vitamin B group.

Vitamin B<sub>1</sub>  
Riboflavine  
Nicotinic acid.

## VITAMIN B<sub>1</sub>

### Used for

Helping the body to use carbohydrate foods for energy.

### Found in

Yeast  
Pork, bacon and ham  
Liver, kidney and heart  
Bread (it is added to most flour)  
Cod's roe  
Eggs

and some in most foods in small amounts except very refined foods, e.g. sugar.

### Amount Needed

1. Everybody needs some **each day**.
2. More carbohydrate foods eaten, more Vitamin B<sub>1</sub> needed.

Special needs:

1. People doing heavy work.
2. Children.
3. Expectant and nursing mothers.



### **Too Little?**

1. Growth of children is slowed down.
2. Lose appetite, get indigestion.
3. Feel tired, achey, miserable and “nervy”.
4. Very, very little Vitamin B<sub>1</sub>—may get disease called Beri-beri (not often in England).

### **Effect of Heat**

1. Little loss in ordinary cooking.
2. More lost at very high temperatures, e.g. canning.

### **In Water**

Will dissolve in water.

## **RIBOFLAVINE (Vitamin B group)**

### **Used for**

Helping the body to use food for energy.

### **Found in**

Yeast  
Liver  
Kidney  
Cheese  
Eggs  
Milk

### **Amount Needed**

Everybody needs some **each day**.

Special needs:

1. Children.
2. Expectant and nursing mothers.

### **Too Little?**

1. Growth of children is slowed down.
2. Sore skin at corner of mouth.
3. Sore tongue.
4. Front of eyes may become misty.

### **Effect of Heat**

1. Some lost in ordinary cooking.
2. More lost at very high temperatures.

### **In Water**

Will dissolve in water.

## **NICOTINIC ACID (Vitamin B group)**

### **Used for**

Helping the body use food for energy.

### **Found in**

Yeast  
Liver  
Kidney  
Meat  
Fish  
Bread (added to most flour)

### **Amount Needed**

Everybody needs some **each day**.

Special needs:

1. Children.
2. Expectant and nursing mothers.

### **Too Little?**

1. Growth of children is slowed down.
2. Skin becomes rough and red.
3. Diarrhoea and poor digestion.
4. Very, very little—may get disease called Pellagra (not often in England).

### **Effect of Heat**

Not lost in ordinary cooking heat.

### **In Water**

Will dissolve in water.

## VITAMIN C

### Good for

1. Growth.
2. Healing wounds and broken bones.
3. General health.

### Found in

Rose hip syrup  
Blackcurrants  
Oranges, lemons, grapefruit  
Strawberries  
Brussels sprouts  
Tomatoes  
Potatoes (more in new ones)  
and some other vegetables and fruit

### Amount Needed

Everybody needs some **each day**.

Special needs:

1. Babies and children.
2. Expectant and nursing mothers.
3. Some invalids.

### Too Little?

1. Children's growth slowed down.
2. Sore mouth and gums.
3. Feel tired and achey.
4. Wounds and broken bones heal slowly.
5. May get disease called scurvy.

### Effect of Heat

1. Some lost by heat used in cooking.
2. Some lost when food is kept hot.

### In Water

Dissolves in water.

### Storing

Some lost when vegetables are stored, e.g. potatoes.

## VITAMIN D

### Good for

Making strong bones and teeth.

### Found in

1. Food mainly.
2. Made by action of sunshine on skin.

### Foods

Cod liver oil

Halibut liver oil

Herrings

Sardines

Tinned salmon

Small amounts in eggs, butter, cheese, milk and margarine.

### Amount Needed

1. Everybody needs a regular supply.
2. Like Vitamin A we can store Vitamin D, so that if we have too much one day we can use it on a day when we have too little.

Special needs:

1. Children.
2. Expectant mothers, to make the baby's bones.

### Too Little?

1. Children—bones remain soft (Rickets), teeth poor.
2. Adults—bones may become soft, teeth poor.

### Effect of Heat

Not affected by ordinary cooking temperatures.

### In Water

Will not dissolve in water.

Will dissolve in fat—called “fat soluble”.

# SOME IMPORTANT FOODS

## CEREALS

“Cereals” are the seeds of Wheat                      Oats  
   Maize                      Rice  
   Barley                      Rye

Wheat is the best cereal.

The following are not really cereals but are often included under the name “Cereals”:

Arrowroot  
Sago  
Tapioca

Cereals alone are poor foods. When people have to eat mainly cereals for food they are not so healthy and the children do not grow as well as when milk, meat, eggs, fish, cheese can be added to the diet.

Cereals are useful foods because they are usually cheap.

Although cereals are really poor foods they are still very important because they are **food**.

They are of most use in the diet when they can be mixed with Protein foods, e.g. rice pudding (milk supplies Protein).

### Cereals contain

Carbohydrate	—	a rich source.
Vitamin B	—	But some lost in milling, etc.
Vegetable protein	—	Small amounts but useful.

### Good for

1. Energy.
2. When cereals have to be the main part of the diet their vegetable protein is very useful.

### Good Points

1. Cheap food for energy.
2. Useful for adding to protein foods, e.g. cheese with spaghetti, etc.
3. Store well.

## **Breakfast Cereals**

Usually made from whole cereals.

Sometimes have extra vitamins and minerals added.

Useful for energy.

Important because of milk added.

## **Semolina**

Produced when wheat grains are ground

Useful for energy.

Main food value is milk added.

## **Macaroni**

### **Spaghetti**

Made from flour and water, shaped and baked a little.

Useful to add to milk, cheese, meat, etc.

## **Arrowroot**

### **Sago**

### **Tapioca**

Mainly starch, so good for energy.

Useful for milk, eggs which can be added.

## **Cornflour**

Mainly starch, so good for energy.

Useful for adding milk to the diet.

## **Flour**

Flour is made from wheat grains.

Briefly, the wheat is cleaned—

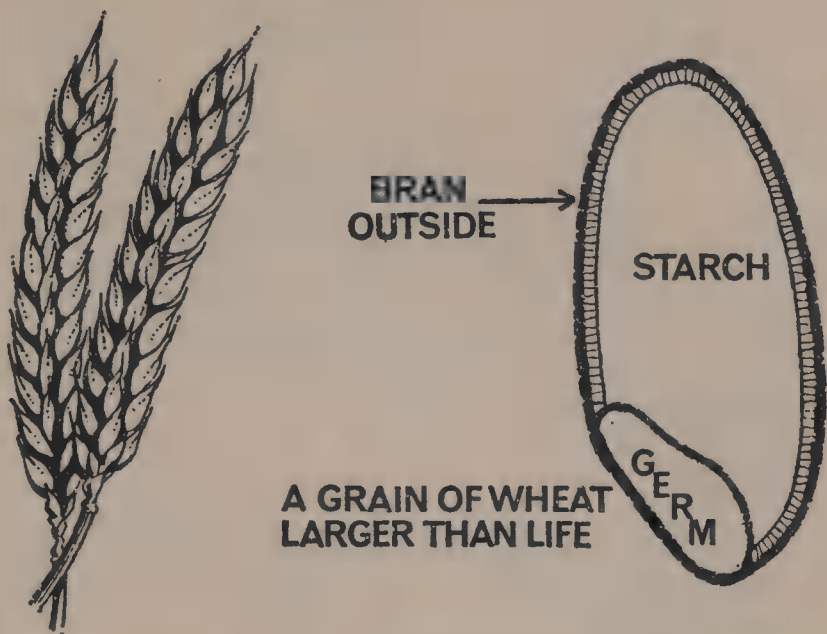
Mixed with other types of wheat.

Ground and sieved several times.

The best way to understand how flour is made is to go to a flour mill if you can.

The more the flour is refined the whiter it gets, and it also loses some of its food value. Most flours now have Calcium, Iron, some of Vitamin B group added.

## WHEAT IS THE BEST CEREAL



## BREAD

Bread is a very important food. It deserves its name of "The staff of life". It can be eaten every day without people getting tired of it.

Bread is not so "Solid" as it looks! It has been said that:

$\frac{2}{3}$  is gas.

The other  $\frac{1}{3}$  is nearly  $\frac{1}{2}$  water.



## **Bread Contains**

Carbohydrate  
Protein  
Fat

Calcium  
Iron  
Some Vitamin B group

Carbohydrate      Because bread is mostly starch it is one of our main foods for energy.

Protein              The protein of bread is vegetable protein.

Fat                    Generally only a small amount.

Calcium  
Iron  
Vitamin B Group

} Most flours have some of these added now.

## **Good Points**

1. A good food for energy.
2. People don't tire of it.
3. A cheap food.
4. Useful for vegetable protein.

## **Digestibility**

Well digested by most people, except very new bread.

## **MEAT**

Meat is one of our best sources of animal protein.

When we think of meat we think of it as being "Lean" and "Fat".

The lean part is the muscle of the animal, although even the lean has some fat in it usually.

## **Lean Meat**

Is made up of:

1. Bundles of tiny tubes called Muscle Fibres.
2. These fibres are held together in bundles by **connective tissue**.
3. In the spaces between the fibres are little cells of fat.

## **Fat ■ Meat**

1. Some between the muscle fibres of the “lean” meat.
2. Some in layers under the skin.
3. Some round important organs to protect them, e.g. kidneys.

## **Meat Contains**

Protein (Animal)

Fat

Minerals, mainly iron

Some of Vitamin B group

Extractives . . . give meat its flavour

Water.

## **Good Points**

1. Good source of animal protein.
2. Cheap cuts are as nutritious as dear ones.

## **Digestibility**

1. Well digested and absorbed by most people.
2. Older animals are tougher.

## **Good for**

1. Growth.
2. Repair.

## **OFFAL**

“Offal” is the name given to parts of animals which are eaten besides the flesh.

These are:

Liver

Sweetbreads

Tripe

Kidney

Lungs

Tongue

Heart

Blood

Brain

## **Brain, Lungs, Blood**

Not very valuable as food.

## **Tongue**

1. Good for Protein.
2. Some fat.
3. Generally well digested.

**Sweetbreads** (The name given to the Pancreas and a gland in the throat)

1. Good for Protein.
2. Easily digested.

**Tripe** (Comes from the stomach and intestines)

1. Good for Protein.
2. Good for Calcium.
3. Easily digested.

## **Heart**

1. Good for Protein.
2. Good for Vitamins B.
3. Needs to be well cooked or it will be tough.

## **Kidney**

1. Good for Protein.
2. Good for Iron.
3. Good for Vitamins B.
4. Needs to be well cooked for good digestion.

## **Liver**

1. Good for Protein.
2. Good for Vitamin A and B group.
3. Rich source of Iron.
4. Needs to be well cooked for good digestion.

## **MILK**

Milk is often called “the perfect food”. It is not quite perfect, as we shall see, but it is still a most excellent food.

It is:

1. Essential for babies and children.
2. Of great value for invalids.
3. A very good food for everybody.

### **Milks Contain**

Protein  
Fat  
Calcium  
Vitamins A, B group, D  
Water  
A little carbohydrate.

### **Points for**

1. Protein is animal.
2. Fat easily digested.
3. Rich in calcium.
4. Well digested by most people especially if added to cereals.
5. Not easily tired of.

### **Points against**

1. Very little iron.
2. Low in Vitamin C, and some of B group and D.
3. Poor in carbohydrate.
4. No roughage for adults.
5. May carry disease.

### **Good for**

1. Growth
2. Repair
3. Especially good for bones and teeth.



## FISH

Just as we eat the flesh of animals for food so we may eat the flesh of fish. It is similar in food value, but is usually more tender. This is because there is less connective tissue in the flesh of fish.

### Fish Contains

Protein  
Fat  
Mineral elements  
Water.

Fish may be divided roughly into two kinds: White fish  
Fat fish

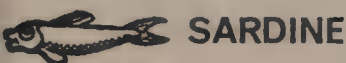
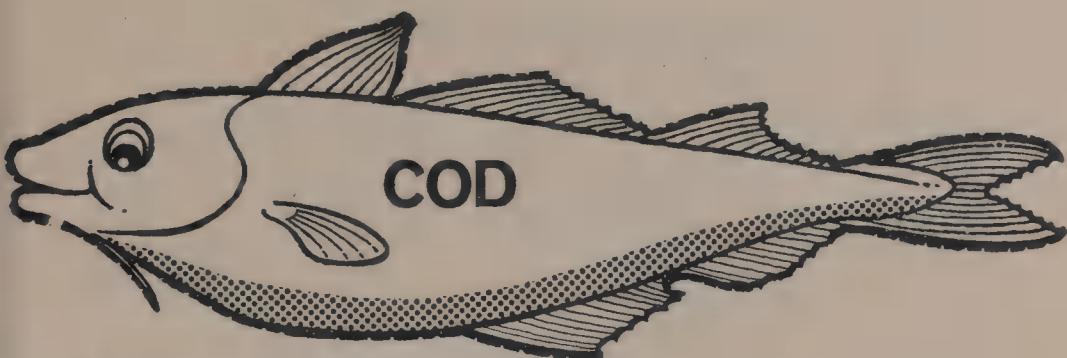
#### WHITE FISH

Cod  
Haddock  
Hake  
Whiting  
Plaice

Sole  
Halibut  
Turbot

#### FAT FISH

Herring  
Mackerel  
Salmon  
Eel  
Sardines



### **Points for Fish**

1. Good for animal protein.
2. Good for Iodine.
3. Good for Nicotinic acid (Vitamin B group).
4. Useful for calcium, especially if bones are eaten, e.g. salmon.
5. Generally well digested, especially white fish.
6. Fat fish is good for Vitamins A and D, e.g. herrings, sardines.

### **Points against**

1. Some fish not very well flavoured and so not very appetising unless good sauces, etc., are added.
2. Goes bad easily.

### **Good for**

1. Growth  
Repair.
2. Fat fish one of few rich sources of Vitamin D.
3. White fish good for invalids and children.

### **Fish Roe**

E.g. of Herring  
Cod  
Sturgeon

“Hard” roe comes from the female fish.

“Soft” roe comes from the male fish.

### **Roe Contains**

Protein

Fat

Calcium

Iron

Some Vitamin B group.

Eat roe whenever it is in season for Protein

Vitamin B.

“Caviare” is the roe of the sturgeon, but is too dear for general use.

### **Fish Liver**

The livers of Cod and Halibut are very rich in oil.

They are very good sources of VITAMIN A  
VITAMIN D.

## **SHELL FISH**

### **Crabs, Lobsters, Prawns, Shrimps**

1. Useful amounts of protein and fat.
2. Indigestible to many people
3. Make some people ill.

### **Oysters, Mussels, Scallops, etc.**

1. Not of great food value.
2. May disagree with some people.

Although shell fish are not very digestible, etc., they are useful because they make a change sometimes from food usually eaten.



## EGGS

Eggs are a very valuable food, because they contain so many of the nutrients necessary for life.

Egg yolk may be given to quite young babies.

Children, invalids, all adults benefit from the food value of eggs.

### Eggs Contain

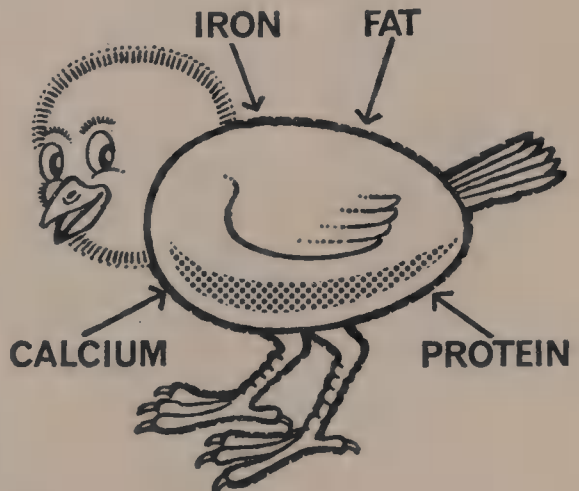
Protein  
Fat  
Iron  
Calcium  
Vitamin A, some B group  
Water.

### Good Points

1. Protein . . . is Animal.
2. Fat . . . easily digested.
3. Iron . . . a rich source.
4. Calcium . . . a useful amount.
5. A compact food.
6. Generally easily digested.

### Good for

1. Growth
2. Repair
3. Bones, teeth, blood.



## CHEESE

Cheese is made from milk. It is a way of preserving milk. So that it can be used as food when supplies are short.

Cheese is made in many ways. The following will give you some idea of the general method.

1. Milk is soured.
2. Rennet is added to make it "Clot".
3. The watery part, the "Whey" is strained off, leaving the curd.
4. The curd has salt added and is pressed.
5. The curd is left to ripen.
6. The ripe curd is cheese.

The different ways in which cheese is made give it different flavours, make it hard or soft, etc.

### Cheese Contains

$\frac{1}{3}$ Protein	Calcium
$\frac{1}{3}$ Fat	Vitamin A
$\frac{1}{3}$ Water	Riboflavine (Vitamin B group)
	Salt

### Good Points

1. Protein is Animal.
2. Very good for calcium.
3. Very compact food.
4. Cheap food for protein.

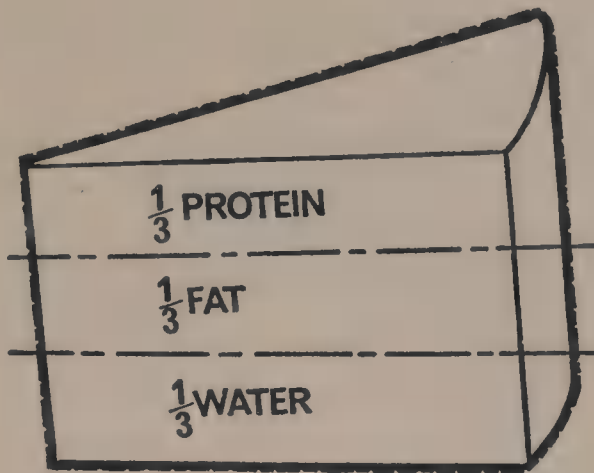
### Digestibility

Generally well digested, but some people find it difficult. To make it easier to digest: 1. Grate it

2. Mix it with starchy foods, e.g. bread, potatoes.

### Good for

Growth  
Repair  
Especially good for bones and teeth.



## VEGETABLES

The parts of plants used as food include parts of the plant under the ground as well as those above the ground.

### BELOW

Roots

Tubers

Bulbs

### ABOVE

Stems

Leaves

Flowers

Fruits

Seeds

The “Flowers” used as vegetables are cauliflower, broccoli, etc.

Vegetables are important mainly for Vitamin A

Vitamin C

Cellulose . . . useful as roughage.

They also contain :

1. Some Protein, but not enough for us to call them “Body building” foods.
2. Some Carbohydrates, but not usually enough for us to call them “Energy” foods, except potatoes, which are rich in starch.
3. Some Calcium, Iron and Vitamin B group, but some other foods are better sources of these.
4. Water.

The body cannot always use the iron and calcium in vegetables, e.g. spinach is rich in iron, but the body cannot use it, BUT spinach is still very useful for Vitamins A and C.

It is difficult to put vegetables into classes, but we will put them into the following rough groups.

1. Green vegetables.
2. Roots, tubers and bulbs.
3. Salad vegetables.
4. Pulse vegetables.

### **Green Vegetables**

#### **LEAVES**

Cabbage  
Sprouts  
Spinach  
Spring greens

#### **FLOWERS**

Cauliflower  
Broccoli

#### **SEEDS**

Fresh green peas  
Runner beans  
French beans  
Broad beans

### **Roots, Tubers, Bulbs**

#### **ROOTS**

Carrots  
Parsnip  
Beetroot  
Swedes  
Turnips

#### **TUBERS**

Potatoes

#### **BULBS**

Onions  
Leeks

### **Salad Vegetables**

Water cress

Lettuce

Mustard and cress

Celery

Radishes

Cucumber

Tomatoes

### **Pulse Vegetables**

Pulses are: Dried peas, whole and split  
Beans—Butter, Haricots  
Lentils

## VITAMIN A AND C IN VEGETABLES

### Vitamin A

1. Vitamin A in vegetables is in the form of **Carotene**.
2. The darker green the leaves, the more Vitamin A.
3. Carrots are rich in Vitamin A as **Carotene**.
4. Vitamin A is not lost when vegetables are cooked.

Orange colour ? Carotene present.

### Vitamin C

GOOD	SOME	SOME
Sprouts	Potatoes	Lettuce
Cabbage	Swedes	Beetroot
Cauliflower	Turnips	Celery
Spinach	Tomatoes	
Water cress	Spring onions	
Curly Kale	Radishes	
Turnip tops		

Potatoes are very useful for Vitamin C because we eat so many of them.

Vitamin C in vegetables may be lost:

1. By storing, e.g. potatoes.
2. In cooking.
3. By keeping vegetables hot.

### NOTE

There is more Vitamin C in new potatoes than old ones.

### Salads

1. Because the vegetables in salads are eaten raw their food value is very good.
2. To improve them, raw green vegetables should be added, also grated carrots, etc.

## Pulses

Have tough skins and so they need to be soaked for several hours before cooking.

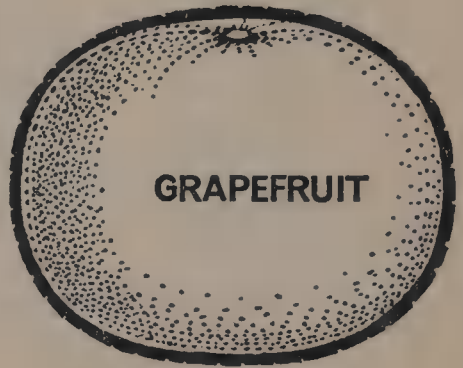
They are useful for:

1. Energy because they are rich in Carbohydrate.
2. As a source of Vegetable Protein.

## Digestion of Vegetables

Vegetables need to be well cooked to soften the fibres and then they are well digested by most people.

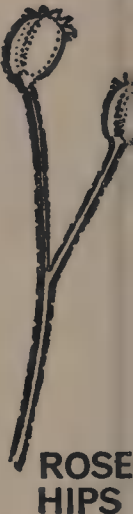
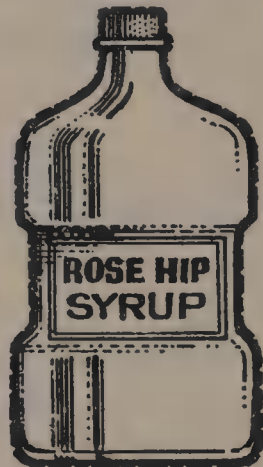
## FRUITS FOR VITAMIN C



**BLACKCURRANTS**



**STRAWBERRY**



**ROSE  
HIPS**

Fruit has very little food value compared with some other foods, but it is still important in the diet, because:

1. Some fruits are a very good source of Vitamin C.
2. Some fruits contain useful amounts of Vitamin A.
3. It has a very refreshing flavour.
4. It is useful as an addition to other foods, e.g. fruit puddings and pies, fruit with milk puddings.

The following lists will help you to eat fruit for Vitamin C.

#### VERY

##### GOOD

Rose hips  
Blackcurrants  
Redcurrants  
Strawberries

##### GOOD

Oranges  
Lemons  
Grapefruit  
Raspberries  
Gooseberries  
Loganberries

##### FAIR

Bananas  
Melon  
Tangerines

##### POOR

Apples  
Pears  
Plums

When you are judging whether a fruit is going to give you plenty of Vitamin C or not you must take into consideration the fact that Vitamin C is easily lost in cooking.

So if a fruit may be eaten cooked or raw it is sensible to eat it raw.

#### NOTE

Rose hips are usually made into syrup. Take it by the spoonful or put it on porridge, milk puddings, ice-cream, etc.

#### Vitamin A in Fruits

Vitamin A in fruits is in the form of Carotene, so all you have to do to find out if a food contains Vitamin A is to look at its colour. Look for the yellow and orange. Tomatoes try to deceive you! The yellow colour is hidden by their very red colour.

#### FRUITS FOR VITAMIN A

Apricots  
Tomatoes  
Peaches

Although there is some Vitamin A in fruits you must remember that Liver and Fish oils **are** far, far better sources.

### **Preserving Fruits**

Fruits are preserved so that we may be able to benefit from their food value when they are not in season.

### **Tinned Fruits**

Do keep much of their Vitamin C and A.

### **Dried Fruits**

Lose their Vitamin C but may still be rich in Vitamin A, e.g. Dried Apricots.

Dried fruits are also good for Carbohydrates and therefore energy, e.g. Dates, Raisins, Currants.

Dried figs need a special mention because they are considered to be rich in Calcium and Iron.

### **Digestion**

Fruits are generally well digested.

They are useful for roughage so would not be good for anybody not allowed food containing roughage, but sieved might be all right.



## NUTS

Nuts are a very good source of food, but they are not often eaten because:

1. They are difficult for most people to digest.
2. They are often dear to buy.
3. They make some people cough.

### Nuts Contain

Protein  
Fat  
Carbohydrate  
Vitamin B group  
Water

### Protein

Nuts are a useful source of vegetable protein . . . chestnuts and coconuts less than the others.

### Fat

All nuts are rich in fat . . . chestnuts least.

### Carbohydrates

Only a little in nuts. . . chestnuts most.

### Vitamin B Group

Useful amounts.

### Chestnuts, Almonds, Peanuts

Most useful as food.

Probably more peanuts are eaten than other nuts, perhaps because they are sold on the sweet counter of certain shops! Better for you than sweets. . . .

# HOW WE USE NUTRITION

We have learnt quite a lot about Nutrition. Now let us see how we can **USE** nutrition.

It won't matter how clever we are at remembering that "Meat is rich in Protein" if we never eat meat. The Protein in meat cannot do our bodies any good unless we include it in our diets. This applies to all the nutrients.

We must know what different foods will do for us and how and when to include them in our diets.

We will now think about which **foods** we should eat each day, and how to include them in our menus.

## WHAT TO EAT EACH DAY

1. Every day we grow.
2. Every day our bodies need a little repairing.
3. Every day we breathe and our hearts beat, etc.
4. Every day we move about.
5. Every day we need to keep well.

We need **food** for all these things.

### For Growth and Repair

**Proteins**, e.g. Meat, Milk, Eggs, Fish, Cheese.

### For Energy

**Carbohydrates**, e.g. Bread, Puddings, Sugar, etc.

**Fats**, e.g. Butter, Fat in food. Fat that food is cooked in.

### To Keep Well

#### Mineral Elements

E.g. **CALCIUM**

Milk

Cheese

Bread

**IRON**

Eggs

Liver

Greens

**SODIUM**

Salt

## Vitamins

A	B GROUP	C	D
Cod liver oil	Liver	Oranges	Cod liver oil
Liver	Bacon	Grapefruit	Herrings
Greens	Cod roe	Greens	Sardines
Carrots	Meat	Tomatoes	Salmon
	Fish	Potatoes	
	Eggs		
	Milk		
	Foods with Yeast		

As you can see, one food will often have more than one use in the body.

## SEVEN FOODS TO EAT EACH DAY

1.  $\frac{1}{2}$  litre **milk**—more if you can get it. To drink at any time.
2. Some **meat** for Dinner.
3. 25 g of **cheese** for Breakfast or Tea.
4. 1 **egg** for Breakfast or Tea.
5. Some **green vegetables** cooked or raw.
6. Some **fruit** with **Vitamin C** in it, e.g. oranges, grapefruit, blackcurrants, strawberries.
7. Your daily dose of **cod liver oil** (or halibut oil).

Plus



Bread and butter  
 Cake  
 Jam  
 Potatoes  
 Water—as much as you like.

## To Make a Change

Have some  $\left\{ \begin{array}{l} \text{Liver} \\ \text{Herrings} \\ \text{Carrots} \\ \text{Bacon} \end{array} \right\}$  Once or twice a week

**H You Can Get** more meat, fish, eggs, cheese and milk, **do so.**

## **Just for Fun**

Count up now and again in the evenings and see if you have had your 7 important foods.

Girls! Keep your eye on liver, eggs and greens

For good complexions.

To replace iron lost in monthly periods.

## **Remember**

If you know your mother cannot always afford all the 7 Important Foods, don't worry her sick.

## **YOU CAN HELP YOURSELF**

### **How?**

1. By eating up all your **School Dinner**.
2. By drinking your share of **Milk**.
3. If you have any pocket money buy an orange sometimes instead of sweets.
4. Get out in the **Sunshine** as much as you can.

## **SIMPLE MEAL PLANNING**

The best way to make sure that everybody is getting ENOUGH of the RIGHT kinds of food is to plan the meals carefully.

This does not mean every item but just the main parts of the main meals.

It is not really hard because all you have to think about is:

1. Meat, Milk, Cheese, Eggs, Fish.
2. Green and other vegetables.
3. Vitamin C fruits.

The energy foods will usually look after themselves, but it is a good idea to keep an eye on them now and again.

If possible:

1. Plan for a week ahead.
2. Look in the larder each morning.

You will need to know for whom you are planning, i.e.:

1. Adults or children.
2. Men or women, boys or girls.
3. If they are ill or well.
4. Whether they do a lot of heavy work or not.
5. Any special needs.
6. Special likes and dislikes!

Also take note of the weather.

Here is a way to plan the meals to start with. Later you need only write down the main points.

## PLANNING A MENU FOR EACH DAY

1. Write down the main meals that you usually have each day in your home.

These might be:

Breakfast  
Elevenes  
Dinner  
High tea  
Supper.

Note—a glass of milk and a sandwich may be counted as a meal.

2. Put some protein in each meal, e.g.:

Breakfast	Egg
Elevenes	Milk
Dinner	Meat or Fish
High tea	Cheese
Supper	Milk.

3. Put in some vegetables, raw, cooked or both, e.g.

Dinner	Cabbage
Tea	Raw green vegetable.

4. Add some fruit, the kind with Vitamin C in it, e.g.:

Oranges  
Grapefruit

Blackcurrants  
Strawberries.

5. Now add the starch and sugar foods, e.g.:

Bread  
Potatoes  
Pudding  
Cake  
Jam  
etc.

### **Check the Menu**

1. Each day's menu must be checked for:

Milk  
Greens  
Fruit with Vitamin C in it.

2. Each week's menu must be checked for:

Liver  
Herrings  
Other fish  
Carrots  
Bacon

### **■ Good Food Enough?**

As well as all the right foods other things are necessary if your food is going to do you as much good as possible.

These are:

1. Proper care of food. "Keep it cool, keep it clean, keep it covered."
2. Careful preparation.
3. Good cooking.
4. A good appetite.
5. Pleasing surroundings.
6. A happy meal table.
7. A good digestion!

**AND DON'T FORGET THE DAILY COD LIVER OIL**



## COUNTING THE CALORIES

### We Know

1. The energy in food can be measured in **Calories** (also called **Kilocalories** or **kcal**s).
2. The energy we use each day can be measured in **kcal**s.

The **number** of kcal's we need from food depends on how much energy we use.

If we eat more food than we need and so get more kcal's than we need then we get **fat**.

We must remember that a person may be getting the right amount of kcal's, but may not be healthy.

**All** our kcal's must come from the right kinds of foods. Which are the right kinds of foods? The foods which will

1. Give energy for "Work and warmth".
2. Build and repair the body.
3. Keep the body in a healthy condition.

## How Many kcals do we need each day?

A schoolgirl of 12–18 years needs 2,300 kcals each day.

Her father doing a sitting down job needs 2,700 kcals each day.

Her mother, on her feet a lot at home and busily shopping, may need 2,500 kcals each day.

Here is a list of some foods and the kcals they give.

The numbers have been made easy for you, but they are near enough correct to work with.

1 egg, fried	140	} MAINLY PROTEIN FOOD
1 egg boiled or poached	90	
100g streaky bacon	535	
1 litre milk	285	
100g steamed white fish	70	
100g fried white fish	205	
100g cheddar cheese	430	
100g roast beef	320	
100g fried ox liver	285	
1 portion custard	90	} MAINLY CARBOHYDRATE FOOD
100g cornflakes	355	
1 large slice white bread	70	
100g boiled potatoes	70	
100g roast potatoes	125	
100g chipped potatoes	230	
1 rock cake	200	
2 digestive biscuits	140	
1 teaspoon sugar	30	
1 bar chocolate	250	
1 large teaspoon jam or marmalade	70	
1 piece treacle tart	300	
1 piece "spotted dick"	300	
1 piece Yorkshire pudding	180	
100g butter	745	} FAT
100g cream	410	



100g cooked cabbage	7	} VEGETABLES AND FRUIT
100g raw lettuce	10	
100g boiled carrots	20	
1 tomato	12	
1 orange	40	
$\frac{1}{2}$ grapefruit	25	
1 apple	40	
1 cup of tea (plus milk and sugar)	50	} DRINKS
1 cup cocoa, all milk plus sugar	150	

## To Do

1. Make a day's menu for the girl 12–18 years.
2. Make a day's menu for her mother.
3. Make a day's menu for her father.

## How to Do II

1. Write down the names of the meals.

Breakfast  
 Elevenses  
 Dinner  
 High tea  
 Supper.

2. Put in a protein food for each meal.
3. Put in some green vegetable for dinner and tea.
4. Put in some fruit with Vitamin C in it.
5. Add the carbohydrate food.
6. Add the drinks.
7. Add anything else you like.
8. Add up the kcals (use the table given on these pages to do this).

After “going metric” we may be talking about megajoules (MJ) per 100g. Confusing! But don't let it bother you. Whatever you call the unit, it remains true that some foods provide more energy (and so may be more fattening) than others.

# USING NUTRITION

## USING NUTRITION FOR ENERGY

### Drink

Milk  
Glucose drinks.

### Eat

#### STARCH AND SUGAR

Bread  
Foods made with  
flour  
Sugar  
Foods made with  
sugar  
Cereals  
Potatoes

#### FAT

Butter  
Margarine  
Fat in food  
Fat that food is  
cooked in

#### VITAMIN B

Pork, bacon, ham  
Food with yeast in  
Liver, kidney, heart  
Bread  
Cod's roe  
Eggs

### How?

Eat all kinds of bread—brown, white, malt, fruit, milk, etc.  
All kinds of cake!  
Shortbread  
Biscuits  
Baked and steamed puddings  
Jam, honey and syrup  
Bacon and beans  
Fried cod's roe and chips  
Bacon roll—baked or steamed  
Pork pies  
Ham sandwiches.

### Warning

You must not eat more of these foods than you need for the energy you use. If you do you will get too fat.

**But** if you don't eat enough of them you will get tired and thin **not** healthy and slim!

## A Jingle

### CARBOHYDRATES

Sweets and jam, cakes and dates,  
Come under the heading "Carbohydrates".

They'll give you energy  
To run here and there.

Overdo it?  
You'll need a wheelchair!



## USING NUTRITION FOR HEALTHY NERVES AND SKIN

### Drink

Lots of milk

### Eat

Yeast foods.

Liver and kidney

Pork, bacon, ham

Cod's roe

Meat

Fish

Eggs

### How?

Bacon and eggs

Liver and bacon

Fried cod's roe

Eggs. . . . All ways

Meat for dinner

Use yeast instead of baking powder for cakes, buns, etc.



**BEFORE**

## Jingle

### VITAMIN B FOR BEATRICE-ANNIE

Beatrice-Annie was nervy and jumpy  
Her skin was as spotty as spotty  
She looked such a fright  
Till her friend put her right  
With foods rich in Vitamin B.

This is what her friend told her . . .

Eat plenty of liver  
And plenty of bacon  
Some cod's roe too  
When that's in season.  
Eat brown bread  
The wholemeal kind  
Some tablets of yeast  
And soon you'll find  
Your "nerves" are all gone  
From spots you are free  
Then you might even be  
As pretty as me!



**AFTER**

## USING NUTRITION FOR STRONG BONES AND TEETH

### Get

As much sunshine as you can.

### Take

Cod liver oil every day

or

Halibut liver oil.

### Drink

Lots of milk.

### Eat

Cheese

Sardines plus bones

Salmon plus bones

Bread

Oranges

Grapefruit

Blackcurrants

Greens

### How?

Milk puddings

Milk shakes

Cheese and potato pie

Welsh rarebit

Cheese salad

Grapefruit for breakfast

Blackcurrant tart

Raw greens in salad

Fresh orange juice

Strawberries and cream!

You don't like cod liver oil? See how clever you can be in hiding it in strong flavoured foods, e.g. gingerbread, or use it with fishy dishes, in sauce, etc.

## Jingles

### VITAMIN D FOR DOTTY

Poor Dotty the pup  
Was an unhappy pup  
And an unhappy pup was he  
His front legs were knock-kneed  
His back legs were bowed  
For he never had Vitamin D.

So they gave him some cod liver oil every day  
And told him to lie in the sun  
And now all his legs are as straight as can be  
And Dotty is happy, so happy is he  
Since he's had lots of Vitamin D.



### VITAMIN C

Make sure you get your Vitamin C  
And be tough as the sailors of the Royal Navee.  
Good for skin, teeth and gums, the doctors say,  
And you need a little every day.

**But**

C for Cinderella at the party stayed too long,  
And lengthy cooking Vitamin C is definitely wrong.

## USING NUTRITION FOR HEALTHY EYES

### Take

Cod liver oil  
or  
Halibut liver oil.

### Drink

Lots of milk.

### Eat

Liver	Carrots
Eggs	Spinach
Butter (or margarine)	Water cress
Cheese	Tomatoes
	Dried apricots

### How?

Liver and bacon  
Eggs. . . . All ways  
Cheese and egg flan  
Egg custard  
Soused herrings  
Grilled herrings  
Greens—Cooked or  
Raw in salads  
Poached egg on spinach  
Buttered carrots  
Tomatoes stuffed with egg and cheese  
Apricot crumble  
Apricots in fruit salad.

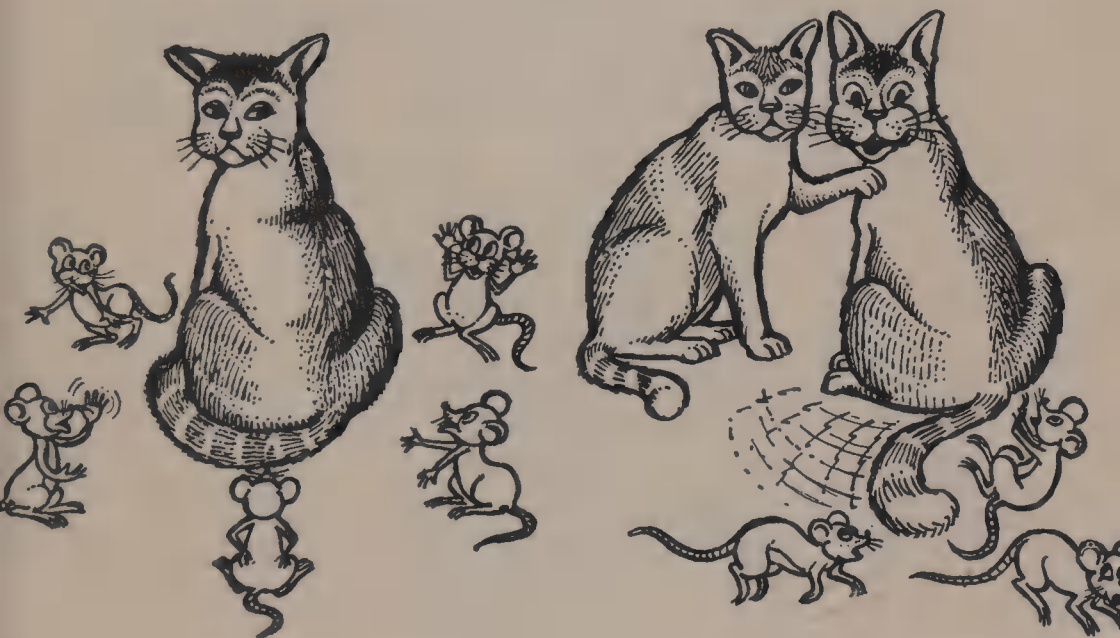


## Jingle

### VITAMIN A FOR ALEX

Poor Alex the cat in the dark couldn't see  
And the mice just ran round him with glee  
Till the lady next door  
Put out her paw  
And said, "Now you listen to me.  
If you'd see night and day  
Keep rude mice at bay  
You just lap up that wonderful Vitamin A."

What's good for Alex (milk, liver, sardines) is good for you . . .  
or do you feed your cat better than you feed yourself?



## USING NUTRITION FOR GROWTH AND REPAIR

### Drink

PLENTY OF MILK.

### Eat

Meat

Milk

Eggs

Fish

Cheese

Cereals

Pulses

Nuts

### Always

1. Spread out the animal proteins . . . some at each meal.
2. Eat enough starch and sugar foods so that all the protein may be used for body building.
3. Mix animal and vegetable proteins to get best food value.

How "to stretch" a little animal protein . . . these are usually expensive.

Bacon and beans.

Meat and vegetable pie

Baked beans in the shepherd's pie

Bean, cheese and potato pie

Macaroni cheese

Spaghetti with cheese or meat

Curried meat with rice

Meat pies and puddings

Rice puddings and moulds

Bread and butter pudding

Milk with breakfast cereals

Sweet corn with poached egg.

### Using nuts

Add them to salads

Use peanut butter

Boiled chestnuts.

## USING NUTRITION FOR GOOD RICH BLOOD

### Eat

Liver	Dried fruit
Eggs	Black treacle
Water cress	Chocolate
Greens	

### How?

Use treacle in gingerbread instead of syrup  
Liver and onions  
Liver sausage  
Liver and bacon  
Minced liver and bacon on toast  
Chocolate cake  
Chocolate pudding  
Salads with raw vegetables and water cress.  
Scotch eggs  
Eggs in all ways.

Iron and Vitamin C work together, so add

Strawberry flan  
Blackcurrant tarts  
Orangeade (home-made)  
Lemonade (home-made)  
Orange salad

## USING NUTRITION—FOOD FOR FUN

### Sweets

Good for energy.

Not to be eaten just before a main meal.

Not to be eaten just before going to bed.

### Chocolate

Good for energy.

Some iron.

But the cocoa butter in chocolate may make your skin spotty.

### Ice-Cream

Very nice but remember there are quite a lot of Calories in ice-cream.

Good for energy.

### Cakes

Good for energy.

Protein if made with eggs.

Iron if made with eggs, dried fruit.

Cakes can be a way of adding a lot of good food value to the diet.

Biscuits can be as useful as cakes as a source of energy and good nutrition, especially home-made ones.

### Jam

Good source of energy.

Easily digested sugar.

### Pickles, Sauces, etc.

Purely for fun.

Have you noticed that most of the food for fun is **energy** food? As long as you need the energy they are very useful, but if you don't, the result? Too fat. . . . Spotty skin.

In other words all these foods are fun until you eat too many, then:

1. You may get too fat.
2. You may get sick.
3. You **can** get both.

### Jingle

If you want to be a hippo  
All you have to do  
Is to keep on eating chocolates—  
A box a day will do!



## USING NUTRITION—JUST EATING

### How Many Meals a Day?

There are people who live on one meal a day. There are others who eat half a dozen meals a day!

Three large meals a day with “nothing in between” used to be thought best but it has now been proved that:

1. People work better,
2. Don't “go sick” so often

if they have a snack between main meals.

This may give the following meal pattern

Breakfast  
Elevenses  
Dinner  
Tea break  
High tea  
Supper snack.

### To Do This

1. Breakfast, dinner, tea should not be so large for most people.
2. The snacks should not be “sticky buns” every time! A cheese or cress sandwich is better.
3. Tea should not be taken with every snack, but:

Coffee made with milk  
Chocolate made with milk  
Fruit drinks  
etc.

Children's snacks should always include milk or fruit juice, or be just an orange or banana.

### Should You Eat when You Are Tired?

Something light is best until the tiredness wears off a little, and then an ordinary meal may be taken.

If very tired, a light meal may be enough, e.g. soup. When people are really physically tired they cannot digest heavy meals.

## **Should You Eat ■ Big Meal Late at Night?**

It is not usually helpful to sleep, to take a large heavy meal just before going to bed.

On the other hand many people are kept awake if they are hungry.

### **For children**

A warm milky drink is usually best.

### **Adults**

By the time people have grown up they usually know what sort of meals they sleep best after!

## **Is It Good to Go Without Breakfast?**

It is never good to start the day without breakfast unless you feel ill, then see the doctor!

Schoolboys and girls (boys usually do!) should always have ■ good breakfast before going to school.

## **Should Schoolgirls “Slim”?**

If a schoolgirl feels she is unhappily fat she should go and ask her doctor's advice. He won't laugh.

**But ■ sensible** schoolgirl will always:

1. Eat a good breakfast, dinner and tea.
2. Drink all the milk she can get.
3. Eat all the fruit she can get.

She may

1. Cut down on sweets, biscuits and cakes on her own.
2. Take more greens and other vegetables instead of potatoes.

## **Should ■ Person Take Vitamin Tablets on their Own?**

If you feel you need Vitamin tablets then go and see the doctor, you may need different ones than you think!

**If a Person Eats ~~all the~~ Right Amounts of ~~all the~~ Right Foods  
Will He ~~be~~ Healthy?**

It would be nice to think so!

**but**

Human beings need other things beside food for good health

E.g. Fresh air

Sunshine

Sleep

Exercise

Work

Play

etc.

**It ~~IS~~ True** that if you don't have the right amount of all the  
right kinds of foods **you will NOT be healthy.**



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